POLYANSKIY,V.I.; GOLLERBAKH,M.M., otvetstvennyy redaktor; GOLOVNIN,M.I., redaktor; TVERITINOVA,K.S., tekhnicheskiy redaktor

[Species of lower algae; report made at the ninth annual Komarov lecture on December 15, 1954] O vide u nizshikh vodoroslei; dolozheno na deviatom ezhegodnom Komarovskom chtenii 15 dekabria 1954 g. Moskva, Izd-vo Akademii nauk SSSR, 1956. 72 p. (Komarovskie chteniia, 9) (MLRA 9:2)

(Algae)

CHERNOVSKAYA, Ye.N.; MILOSLAVSKAYA, N.M., kandidat biologicheskikh nauk,
otvetstvennyy redaktor; GOLOVNIN, M.I., redaktor izdatel'stva;
TVERITINOVA, K.S., tekhnicheskiy redaktor

[Hydrological and hydrochemical characteristics of the littoral zone of the eastern Murman Coast and the White Sea] Gidrologicheskie i gidrokhimicheskie usloviia na literali Vostochnogo Murmana i Belogo moria. Moskva, Izd-vo Akademii nauk SSSR, 1956. 113 p.
(White Sea) (Murman Coast) (MLRA 9:11)

PAVLOVSKIY, Ye.N., akademik, glavnyy redaktor; KALESNIK, S.V., otvetstvennyy redaktor; GOLOVNIN, M.I., redaktor izdatel'stva; TVERITINOVA, K.S., tekhnicheskiy redaktor

[Papers at the annual lectures honoring the memory of L.S.Berg; I-III, 1952-1954] Doklady na ezhegodnykh chteniiakh pamiati L.S. Berga; I-III, 1952-1954. Moskva, Izd-vo Akademii nauk SSSR, 1956. 210 p. (MLRA 9:7)

1. President Geograficheskogo obshchestva SSSR (for Pavlovskiy) 2. Vitse-prizident Geograficheskogo obshchestva SSSR, chlen-korrespondent AN SSSR (for Kalesnik) 3. Geograficheskoye obshchestvo SSSR. (Geography)

GOLOVNIN, M.I.

SAVICH-LYUBITSKAYA, L.I., doktor biologicheskikh nauk; FATCHIKHINA, O.Ye., kandidat sel'skokhozyaystvennykh nauk; SAVICH, V.P., professor, zasluzhennyy deyatel' nauki RSFSR, otvetstvennyy redaktor; GOLOVNIN, M.I., redaktor izdatel'stva; ZENDEL', R.Ye., tekhnicheskiy redaktor

[Significance and use of peat in agriculture] Znachenie i ispol'zovanie torfa v sel'skom khoziaistve. Moskva, Izd-vo Akad.nauk SSSR, 1957. 92 p. (MLRA 10:8)
(Peat)

ACC NR: AP6033643 SOURCE CODE: UR/0018/66/000/010/0082/0086

AUTHOR: Golovnin, V. (Captain)

ORG: none

TITLE: Preliminary preparation for firing

SOURCE: Voyennyy vestnik, no. 10, 1966, 82-86

TOPIC TAGS: [illegible], antiaircraft fire control system, fire control equipment, ground fire control system, Ordnance Training

ABSTRACT: In order to increase the directional accuracy of antiaircraft fire, a new slide rule and table have been developed. With this rule and table, the trajectory of the shell can be determined, as well as its initial velocity, resultant deviation, and ultimate ballistic deviation, and the target's present position with reference to the center of the battery's firing position can be established. Use of this rule permits firing calculations to be made 8 to 10 times faster and more accurate than can be obtained without it.

SUB CODE: 05,19/ SUBM DATE: none

Card 1/1

GOLOVNIN, Vasiliy Mikhaylovich, vitse-admiral [1776-1831]; BOGOLEPOV, V.P., red.; DIVIN, V.A., red.; LAVRENTSOVA, T.D., red.; GRISHINA, L.I., red.; CHERNYKH, M.P., mladshiy red.; KOSHELEVA, S.M., tekhn. red.; GOLITSYN, A.V., red. kart;

[Voyage on the sloop "Diana" from Kronstadt to Kamchatka carried out under the command of naval lieutenant Golovnin in 1807-1811] Puteshestvie na shliupe "Diana" iz Kronshtadta v Kamchatku, sovershennoe pod nachal'stvom flota leitenanta Golovnina v 1807-1811 godakh. Moskva, Gos. izd-vo geogr. lit-ry, 1961. 479 p.
(MIRA 14:9)

(Golovnin, Vasilii Mikhailovich, 1776-1831)
(Voyages and travels)

GOLOVNIN, Vasiliy Mikhaylovich (1776-1831); DIVIN, V.A., otv. red.;
MATVEYEVA, G.Ye., red.; KIR'YANOVA, Z.V., mlad. red.

[Captain of the Navy Golovnin's voyage around the world on the sloop of war "Kamchatka" in 1817, 1818 and 1819] Puteshestvie vokrug sveta, sovershennoe na voennom shliupe "Kamchatka" v 1817, 1818 i 1819 godakh flota kapitanom Golovninym. Moskva, Mysl', 1965. 383 p. (MIRA 18:9)

VERKHOVSKIY, I.M.; VINOGRADOV, N.N.; FILATOVA, S.M.; KOLESOV, R.I.; KOLLODIY, K.K.; GOLOVNIN, Yu.M.; GANOV, V.S.; SOROKIN, A.I.

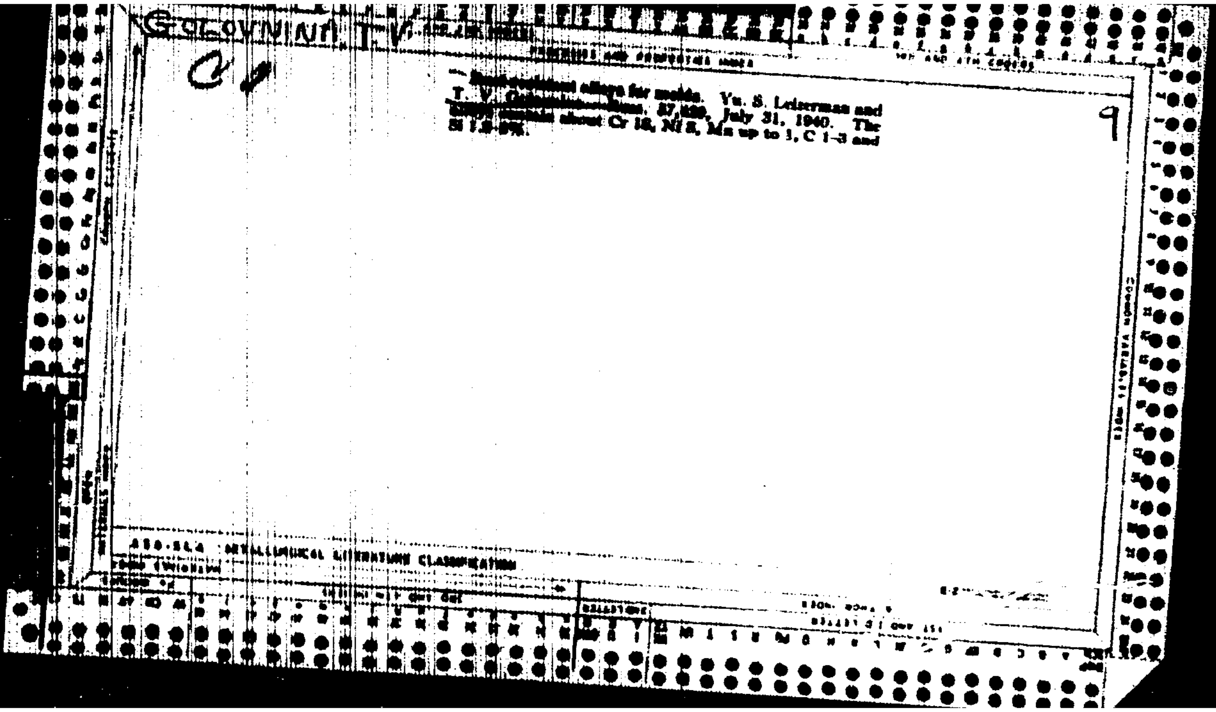
Device for controlling the degree of loosening of the bed in a jigging machine. Gor. zhur. no.7:72 Jl '64. (MIRA 17:10)

GOLOVNIN, Yu.M., inzh.

"Flow sheets of coal preparation plants in Czhechoslovakia and the Federal Republic of Germany. Nauch.trudy KuzNIIUgleobog. no.2:86-93 '64. (MIRA 17:10)

[redacted] LOZOVS'KIY, N.A.; BONDARENKO, O., veduchiy redaktor;
NOVIK, O., tekhnichnyy redaktor

[Cutting and sewing of outer garments] Krii ta shyttia verkhn'oho odiahu. Kyiv, Derzh.vyd-vo tekhn.lit-ry URSR, 1957. 277 p.
(Dressmaking) (MLRA 10:8)



GOLOVNIN, T. V.

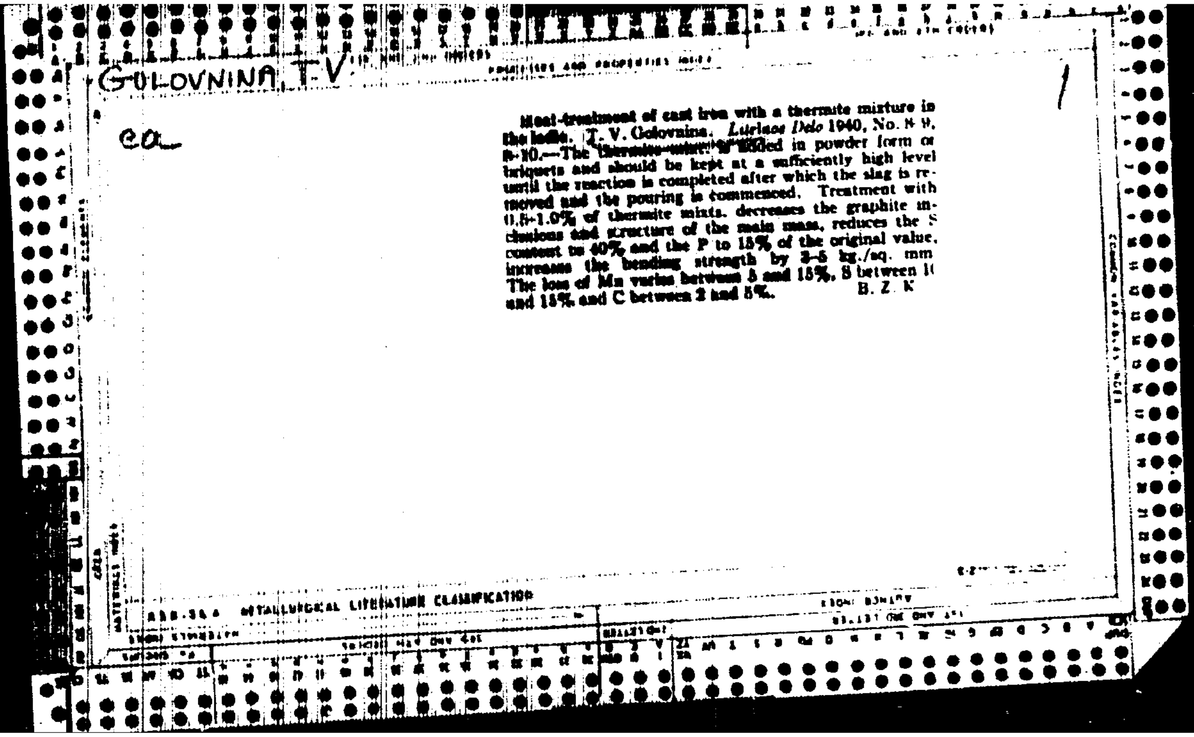
C

PROCESSES AND PROPERTIES INDEX

[illegible] alloys for molds. Yu. S. Leizerman and T. V. Golovnin. [illegible] 57,920, July 31, 1940. The [illegible] contains about Cr 18, Ni 8, Mn up to 1, C 1-3 and Si 1.5-2%.

9

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



GOLOVNINA, T.V.

ca

1

PROCESSES AND PROPERTIES INDEX

Heat-treatment of cast iron with a thermite mixture in the ladle. T. V. Golovnina. *Liteinoe Delo* 1940, No. 8-9, 8-10.—The thermite mixt. is added in powder form or briquets and should be kept at a sufficiently high level until the reaction is completed after which the slag is removed and the pouring is commenced. Treatment with 0.8-1.0% of thermite mixts. decreases the graphite inclusions and structure of the main mass, reduces the S content to 40% and the P to 15% of the original value, increases the bending strength by 3-5 kg./sq. mm. The loss of Mn varies between 5 and 15%, S between 1 and 15% and C between 2 and 5%. B. Z. K

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GOLOVNINA, T. V.

Izgotovlenie otlivok iz vysokokhromistogo chuguna. Moskva Mashgiz, 1943.
12 p. (Novaia tekhnologiia v mashinostroenii: Liteinoe proizvodstvo)

Production of high-chromium cast iron.

DLC: TS235.G6

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

GOLOVNINA, T.V., kand. tekhn. nauk, dotsent; KHAVAYEV, N.I., tekhn. red.

[Raw materials of the blast furnace process] Syrye materialy domennogo proizvodstva. Moskva, Mosk. gos. ekon. in-t., 1959. 28 p. (MIRA 14:5)

(Blast furnaces—Equipment and supplies)

gr. ↑ fü Orh.

BLOKH, Samuil Yakovlevich; MIRKIN, Samuil L'vovich; DANILEVICH, Ye.P.;
GOLOVNINA, Ye., red.; LEBEDEV, A., tekhn.red.

[Handbook of prices for building materials and equipment approved during the period from July 1, 1955 to January 1, 1958] Spravochnik tsen na stroitel'nye materialy i oborudovanie, utverzhdennykh v period s 1 iiulia 1955 g. po 1 ianvaria 1958 g. Moskva, Gosfinizdat. Pt.4. 1958. 1182 p. (MIRA 12:1)

(Building materials--Prices)

GOLOVNYA, A., zasluzhennyy deyatel' iskusstv RSFSR

The truth of the image. Sov.foto 22 no.9:12-15 S '62.
(MIRA 15:8)

(Photography)

DYKO, Lidiya Pavlovna; GOLOVNYA, Anatoliy Dmitriyevich; ZHEREBETSKAYA, N.N., red.; BORISOVA, V.U., tekhn. red.

[Photographic composition] Fotokompozitsiia. Moskva, Iskusstvo, 1962. 150 p. (MIRA 16:5)
(Composition (Photography))

GOLOVNITSOV, A.G., doktor tekhn. nauk, prof., red.; ARKHAROV, A.M., kand. tekhn. nauk, red.;

[Summaries of reports made at the Scientific and Technological Conference on the Work of the Low-Temperature Research Laboratory During the Period 1957-1960] Tezisy dokladov Nauchno-tekhnicheskoy konferentsii po itogam raboty problemnoi laboratoii glubokogo kholoda za period s 1957 po 1960 gg. Pod red. A.G.Golovintsova i A.M.Arkharova. Moskva, M-vo vysshego i srednego spetsial'nogo obrazovaniia RSFSR, 1960. 59 p. (MIRA 14:11)

1. Nauchno-tekhnicheskaya konferentsiya po itogam raboty problemnoy laboratorii glubokogo kholoda za period s 1957 po 1960 gg.
(Low temperature research—Congresses)

GOLOVNYA, A.P. (Minsk)

The workers of car repair shops in Minsk strive to achieve
economy of materials. Zhel. dor. transp. 45 no.11:55-59
N '63. (MIRA 16:12)

SOV/78-3-12-14/36

AUTHORS: Chernyayev, I. I., Golovnya, A. V., Molodkin, A. K.

TITLE: Concerning the Hydrated Forms of Sodium Thorium Pentacarbonate
(O gidratirovannykh formakh pentacarbotoreata natriya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12,
pp 2671-2686 (USSR)

ABSTRACT: The thorium carbonates of the alkali metals were systematically investigated and a new method for synthesizing $Na_6Th(CO_3)_5 \cdot 20H_2O$ and $Na_6Th(CO_3)_5 \cdot 12H_2O$ was developed. The syntheses of $Na_6Th(CO_3)_5 \cdot (10-12)H_2O$ and $Na_6Th(CO_3)_5 \cdot 5H_2O$ were also worked out. The alkaline earth salts of sodium thorium pentacarbonate were isolated as the barium and calcium salts:

$Ba_3Th(CO_3)_5 \cdot 7H_2O$ and $Ca_3Th(CO_3)_5 \cdot 7H_2O$.

The thermal stabilities of $Na_6Th(CO_3)_5 \cdot 20H_2O$ and $Na_6Th(CO_3)_5 \cdot 12H_2O$ were investigated and the corresponding thermograms were plotted. The course of the thermograms indicates that both crystal hydrates are converted to the non-aqueous $Na_6Th(CO_3)_5$

Card 1/3

Concerning the Hydrated Forms of Sodium Thorium Pentacarbonate

above 100°, and that above 300° they decompose to form ThO_2 and Na_2CO_3. Several crystallographic properties of the $Na_6Th(CO_3)_5 \cdot 20H_2O$ and $Na_6Th(CO_3)_5 \cdot 12H_2O$ were investigated. The properties of $Na_6Th(CO_3)_5 \cdot 20H_2O$ indicate that the crystals are monoclinic with the following parameters: a:b:c = 1.461: 1:1.495 and β = 106° 12'. The refractive indices are: N_g = 1.476, N_m = 1.470, N_p = 1.462. The crystallographic properties of $Na_6Th(CO_3)_5 \cdot 12H_2O$ differ sharply from those of the $Na_6Th(CO_3)_5 \cdot 20H_2O$. The refractive indices of $Na_6Th(CO_3)_5 \cdot 12H_2O$ are: N_g = 1.504, N_p = 1.472 and N_m = 1.490. The crystals of each hydrate differ greatly in terms of their stability in air. The $Na_6Th(CO_3)_5 \cdot 20H_2O$ crystals are unstable, losing their water very quickly and becoming opaque, while the $Na_6Th(CO_3)_5 \cdot 12H_2O$ crystals are completely stable. The behavior of both salts in water, alkali bases, acids, salts, and several organic solvents was investigated. Both crystals hydrolyze

SOV/78-3-12-14/36

Concerning the Hydrated Forms of Sodium Thorium Pentacarbonate

easily in water to form white, amorphous precipitates. In alkali bases both hydrates are insoluble, while in acids they decompose spontaneously to give off CO_2 gas. In organic solvents (methyl and ethyl alcohols, ethyl ether, acetone, benzene, glycerin, and others) the crystals are insoluble. The crystals of $Na_6Th(CO_3)_5 \cdot 12H_2O$ are soluble in saturated solutions of the oxalates and carbonates of the alkali metals. The water molecules in sodium thorium pentacarbonate complexes are not identical. The last water molecule is the most stable in terms of its complex bond. The following new structural formula is suggested for sodium thorium pentacarbonate: $\left[Na_6\left[Th(CO_3)_5 \cdot H_2O\right] \cdot (n-1)H_2O\right.$.

There are 7 figures, 13 tables, and 49 references, 3 of which are Soviet.

SUBMITTED: February 21, 1958

Card 3/3

TSFAS, B.S., dotsent, kand.tekhn.nauk; MATVEYEV, A.P., assistent;
PROVATOROV, Yu.A., student; SHEVCHENKO, V.A., student;
GOLOVNYA, A.V., student; SURKIN, V.I., student

Results of static tension tests of steel cylindrical specimens having circular single and group notches, and of smooth-roll burnisched specimens. Sbor.dokl.Stud.nauch.ob-va Fak.mekh.sel'. Kuib.sel' khoz.inst. no. 1:72-78 '62. (MIRA 17:5)

1. Kuybyshevskiy sel'skokhozyaystvennyy institut.

L 47358-66 EWT(m)/SWP(j) RM

ACC NR: AP6030555 (AN) SOURCE CODE: UR/0413/66/000/016/0033/0033

INVENTOR: Tsvanger, T. A.; Rostunov, V. F.; Golovnya, B. A.; Turetskaya, R. A.; Golubtsov, S. A.; Layner, D. I.; Malysheva, L. A.; Komrakova, V. V.; Yezerets, M. A.; Maslyukov, A. I.; Nastasin, A. A.

3E

ORG: none

TITLE: Method of obtaining phenylchlorosilane. Class 12, No. 184855, [announced by State Scientific Research Institute of State Design and Planning Scientific Research for the Processing of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy institut "Giprotsvetmetobrabotka")]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 33

TOPIC TAGS: phenylchlorosilene, chlorobenzene

ABSTRACT: An Author Certificate has been issued for obtaining phenylchlorosilanes by the reaction of chlorobenzene with the silicon-copper contact mass in the presence of an activator. To raise the yield of diphenyldichlorosilane and to

Card 1/2 UDC: 547.419.5.07

L 47358-66

ACC NR: AP6030558

increase the efficiency of the process, zinc oxide, in amounts up to 4%, is used as the activator. [Translation] [NT]

SUB CODE: 11/ SUBM DATE: 01Dec64/

Card 2/2 mt

GOLOVNIA, D.

Potentials for increasing the output of a mine shaft. Mast. ugl. 3 no.6:7-8 Je '54. (MIRA 7:7)

1. Nachal'nik shakhty No. 1-2 im. Mel'nikova kombinata Voroshilovgradugol'.
(Coal mines and mining)

USSR/Farm Animals. Honey Bee. Q

Abs Jour: Ref Zhur-Biol., No 4, 1958, 16878.

Author : Golovnya I.T.
Inst :
Title : The Improvement of the Local Bee by Means of Crossing It With the Upper Caucasian Bee (Uluchsheniye mestnoy pchely putem skreshchivaniya eye c gornokavkazskoy)

Orig Pub: Pchelovodstvo, 1957, No 6, 15-17.

Abstract: The work performed by the Ukrainian scientific research station of apiculture demonstrated that by means of the absorbing crossing of the local bees with the Upper Caucasian ones it is possible to obtain in the third generation winter-resistant and more productive bees as compared with the local Ukrainian ones.

Card : 1/1

43

GOLOVNYA, Ivan Tikhonovich, inzh.; KUROCHKIN, Aleksey Mikhaylovich, inzh.; BAL'TSEVICH, Viktor Appolinar'yevich, inzh.; SHEVTSOV, Georgiy Aleksandrovich; SAMOYLOVA, G.V., red.; GOLUBKOVA, L.A., tekhn. red.

[Fundamentals of construction] Osnovy stroitel'nogo dela. By I.T.Golovnia i dr. Moskva, Izd-vo tekhn.i ekon. lit-ry po voprosam khleboproduktov, 1960. 243 p. (MIRA 15:1)
(Building) (Grain handling)

GOLOVNYA, L. Ye.

Murres. IUn. nat. no.7:11-12 Jl '61. (MIRA 14:7)
(Murres)

GOLOVNYA, L.Ye. (Moskva)

With a motion-picture camera to seashore colonies of birds.
Priroda 50 no.9:84-89 S '61. (MIRA 14:8)
(Water birds)

GOLOVNYA, Mikhail Aleksandrovich; MARTYNOV, N.V., redaktor; GALAKTIONOVA,
Ye.N., tekhnicheskiy redaktor

[Safety instructions for workers in asphalt concrete plants]
Pamiatka po tekhnike bezopasnosti dlia rabochikh asfal'tobetonnykh
zavodov. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1954.
30 p. (MIRA 8:7)
(Asphalt concrete)

GOLOVNYA, M., inzhener.

For high quality automobile road construction. Avt.transp. 32 no.4: 19-20 Ap '54. (MLRA 7:6)

(Road construction)

GOLOVNYA, N.A., inzhener.

A directive on the evaluation of road work must be worked
out. Avt. dor. 19 no.6:30-31 Je '56. (MLRA 9:9)

(Road construction)

GOLOVNYA, M.A., inzhener.

In the Main Administration of Highway Construction of the USSR.
Avt.dor. 20 no.3:p. 3 of cover Mr '57. (MLRA 10:5)
(Road construction)

GOLOVNYA, Mikhail Aleksandrovich; IYEVLEVA, T.A., red.; NIKOLAYEVA,
L.M., tekhn.red.

[Instruction booklet for workers of asphalt concrete plants]
Pamiatka rabochemu asfaltobetonnogo zavoda. Moskva, Nauchno-
tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog
RSFSR, 1960. 33 p. (MIRA 14:1)
(Asphalt concrete)

GOLOVNYA, Mikhail Aleksandrovich; KONONOVA, V.S., red.; GORYACHKINA,
R.A., tekhn. red.

[Handbook for workers in the construction of bituminous
concrete pavements] Pamiatka asfal'tobetonshchiku na
stroitel'stve pokrytii. Moskva, Avtotransizdat, 1963. 19 p.
(MIRA 16:6)

(Pavements, Bituminous concrete—Safety measures)

GOLOVNYA, M.A., inzh.

Improving the quality of sand asphalt concrete with lime. Avt. dor. 26 no.10:22-24 O '63. (MIRA 16:11)

USSR

CATEGORY : Cultivated Plants. Grains. Leguminous Grains. Tropical Cereals

ABS. JOUR : Ref Zhur -Biologiya, No. 5, 1959, No. 20251

AUTHOR : Golovnya, M.T.
INST. : L'vov Agric. Inst.
TITLE : Findings of a Study in Corn Selection and Agrotechny.

ORIG. PUB. : V sb.: Kul'tura kukuruzy v SSSR. M. "Sov. nauka", 1957, 118-122

ABSTRACT : The results of a two year study of the varieties at L'vov Agricultural Institute. The most valuable varieties in regard to early maturing, productivity and grain size were the Mestnaya zheltaya krupnozernaya (Local large grain yellow), Mestnaya belaya (Local white), Voronezhskaya 76, Voronezhskaya 8, North Dakota. These varieties have a vegetation period ranging from 110 to 120 days, with a productivity of 78-82 centners per

CARD: 1/2

[illegible]

[illegible] : 1/1

[illegible] : [illegible], Perevalova, E. G., Golovnya, R. V. and [illegible]

[illegible] : [illegible] displacement

[illegible] : Dokl. AN SSSR, 97, [illegible], July 21, 1954

[illegible] : [illegible] stability, resistance to [illegible] acid [illegible] (dicyclopentadienyl [illegible]) are discussed [illegible] of halogenated [illegible] During [illegible] three USA and 1 German references.

[illegible] : [illegible] Moscow

[illegible] : May 20, 1954

[illegible]

USSR/Chemistry - [illegible]

Card 1/1 Pub. 22 - 14/15

Authors : Nesmeyanov, A. N.; [illegible], Perevalova, E. G.; and Golovnya, R. V.

Title : Reaction of ferrocene with diazo compounds

Periodical : Dok. AN SSSR 97/4, [illegible], Dec 1, 1954

Abstract : [illegible] ferrocene reacts not only with [illegible] ferrocene (yield [illegible]) but also [illegible] arylferrocenes [illegible] ferrocene was found to be [illegible] yields of mono-[illegible] in the benzene nuclei [illegible] references: 3-USA; [illegible] and [illegible] (1953-1954). [illegible]

Institution : The M. V. Lomonosov State University, Moscow

Submitted : November 11, 1954

[illegible]

[illegible]

Name: GOLOVNYA, R. V.

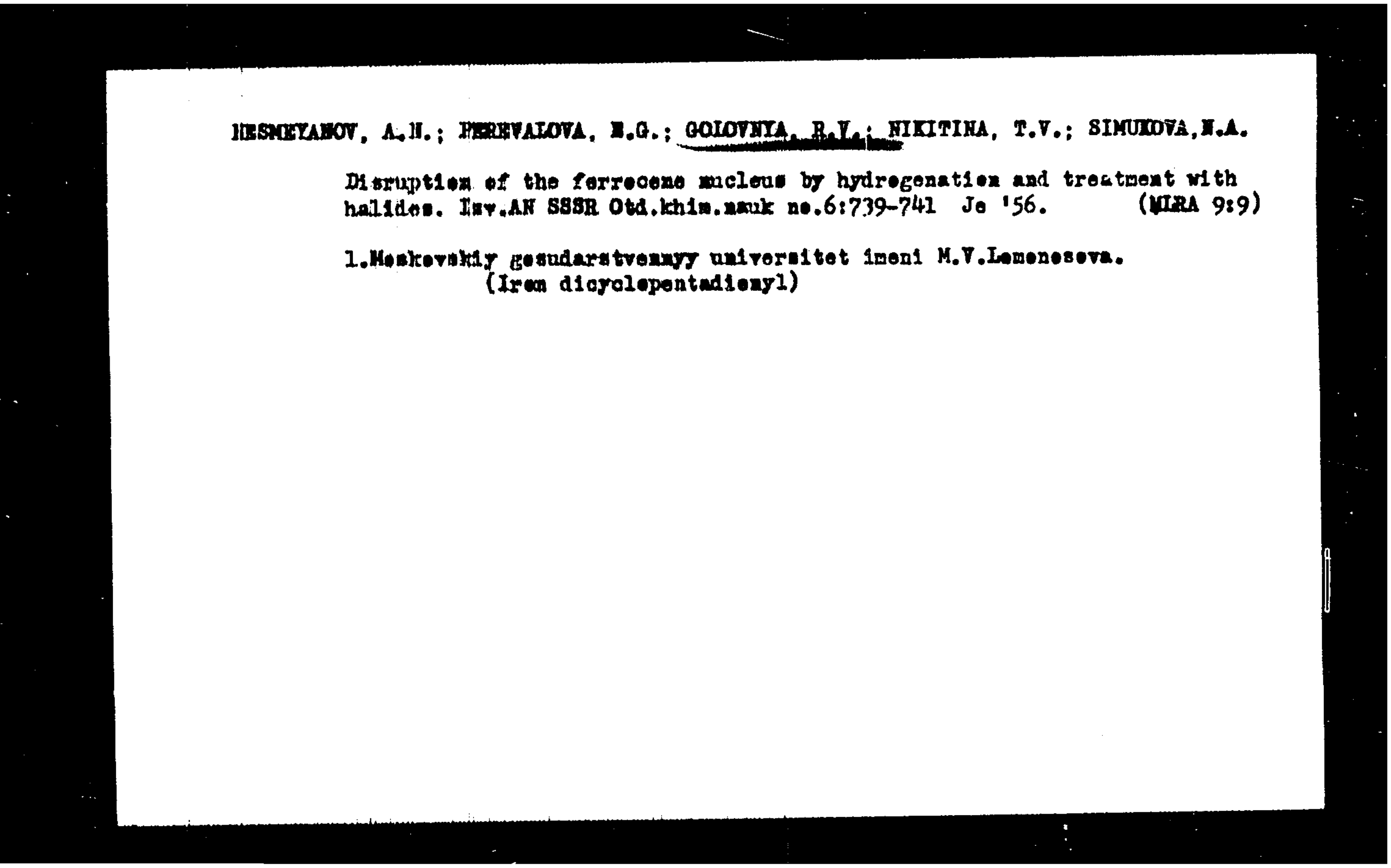
Dissertation: Arylferrocenes

Degree: Cand Chem Sci

Affiliation: Moscow Order of Lenin and Order of Labor Red Banner State
U imeni M. V. Lomonosov

Defense Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 1, 1957



NESMEYANOV, A.N.; PEREVALOVA, E.G.; GOLOVNYA, R.V.; NIKITINA, T.V.; SIMUKOVA, N.A.

Disruption of the ferrocene nucleus by hydrogenation and treatment with halides. Izv.AN SSSR Otd.khim.nauk no.6:739-741 Je '56. (MIRA 9:9)

1.Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Iron dicyclopentadienyl)

NESMEYANOV, A.N., akademik; GOLOVNYA, R.V.

Azobenzene as an acceptor of hydride hydrogen. Dokl.AN SSSR 133 no.6:1337-1339 Ag '60. (MIRA 13:8)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Azobenzene) (Hydrogen)

NESMEYANOV, A.N., akademik; GOLOVNYA, R.V.

Indole closure of azobenzene with cyclohexanone. Dokl. AN SSSR 136 no.4:836-839 F '61. (MIRA 14:1)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Azobenzene) (Cyclohexanone) (Indole)

NESMEYANOV, A.N.; GOLOVNYA, R.V.

Splitting of hydride hydrogen off organic compounds by means of azobenzene. Zhur. ob. khim. 31 no.4:1067-1076 Ap '61.
(MIRA 14:4)

(Hydrogen) (Azobenzene)

GOLOVNYA, R.V.; MIRONOV, G.A.; SOKOLOV, [illegible].B.

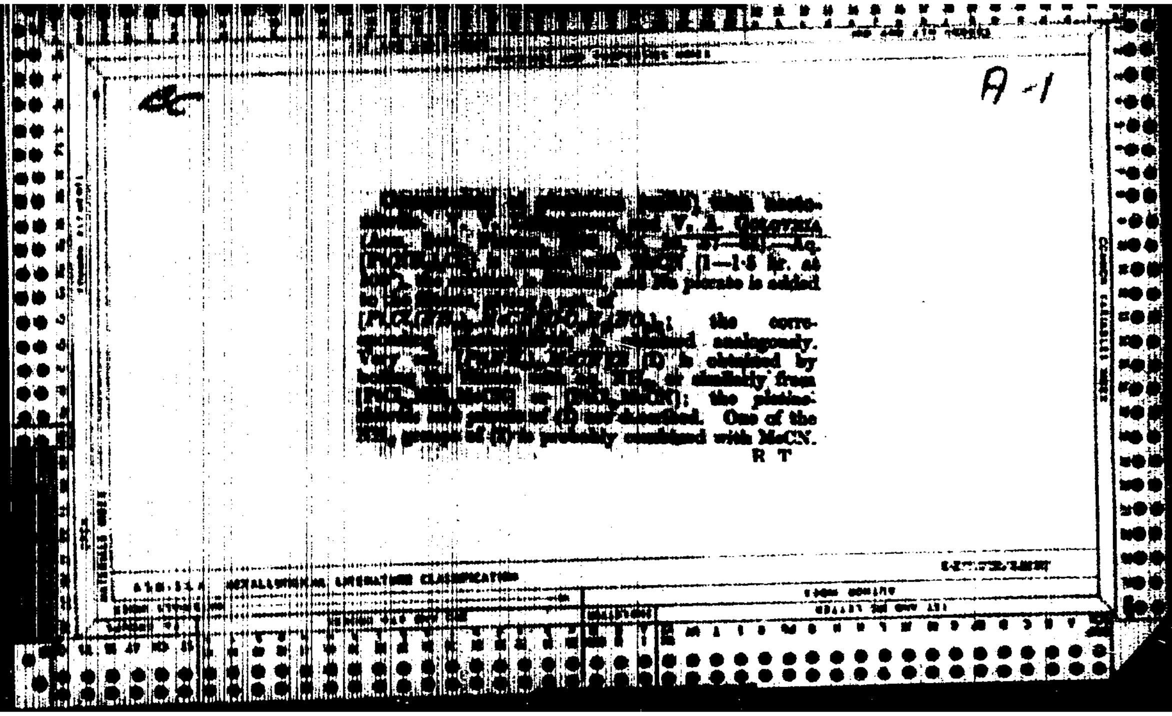
Chemistry of odor of food products. Usp.khim. 33 no.7:816-854 Jl '64. (MIRA 17:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

GOLOVNYA, R.V.; MIRONOV, G.A.; ZHURAVLEVA, I.L.

Gas chromatographic method of identification of aliphatic amines by the gas chromatographic method requiring no reference standards. Dokl. AN SSSR 163 no.2:369-371 Jl '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted January 6, 1965.



A-1

[illegible] V. A. Golovnya [illegible] aq. [illegible] [1—1·5 hr. at [illegible] picrate is added [illegible]; the corre- [illegible] analogously. [illegible] (I) is obtained by [illegible] similarly from [illegible]; the platino- [illegible] described. One of the [illegible] is probably combined with MeCN.

R T

METALLURGICAL LITERATURE CLASSIFICATION

10

Compounds of platinum with nitriles. II. Compounds of platinum with propionitrile. V. V. Lebedinskii and V. A. Golovnya. Ann. secteur platine, Inst. chim. gén. (U.S.S.R.) 22, 28-49(1948)(in Russian); cf. C.A. 34, [illegible]. — (1) From 1 g. $[Pt(NH_3)_3Cl]Cl$ in 30 ml. H_2O and 1 ml. AcCN, heated on a water bath in a sealed tube 8 hrs., the highly sol. salt $[Pt(NH_3)_3(AcCN)]Cl_2$ was obtained, sepd. as the picrate, $[Pt(NH_3)_3(AcCN)][C_6H_2(NO_2)_3O]_2$, and as the chloroplatinate $[Pt(NH_3)_3(AcCN)][PtCl_6]$. (2) From a mixt. of 3 g. K_2PtCl_4 in 24 ml. water and 3 ml. EtCN, left standing at least 2 hrs., there sepd. a lemon-yellow cryst. ppt., insol. in alc. and cold water, sparingly sol. in hot water, m. 110°, decomp. 180°, formula from analysis $[Pt(EtCN)_2Cl_2]$. By reaction with $CS(NH_2)_2$ (Kurnakov's reaction), the compd. was shown to have the cis structure, independently of the length of standing of the initial reaction mixt. (up to 75 days). (3) The highly sol. compd. $K[Pt(EtCN)Cl_3]$ formed on heating on a water bath in a sealed tube 1.5 hrs., 3 g. K_2PtCl_4 in 24 ml. water and 2 ml. EtCN, was sepd. as $[Pt(NH_3)_4][Pt(EtCN)Cl_3]_2$, fine orange crystals, insol. in alc. and in cold water, decompd. by hot water. (4) Refluxing on a water bath for 3 hrs. 4 g. $[Pt(NH_3)_2Cl_2]$ (Peyrone's salt) in 20 ml. water and 4 ml. EtCN gave, besides 1.45 g. Pt, a dark red filtrate contg. $[Pt(NH_3)_3(EtCN)Cl]Cl$, sepd. by KI as $[Pt(NH_3)_3(EtCN)Cl]I \cdot H_2O$, brown crystals, easily sol. in alc. and in hot water, losing H_2O at 100°, decomp. 120°. (5) The EtCN-NH_3 analog of Peyrone's salt, $[Pt(NH_3)(EtCN)Cl_2]$, lemon-yellow crystals, insol. in alc. and in cold water, was obtained from 3 g. $K[Pt(NH_3)Cl_3]$ dissolved in 20 ml. boiling water, addn. of the theoretical amt. of K_2PtCl_4, filtration from the green ppt. of Magnus' salt, evapn., cooling, renewed filtration, addn. of 2 ml. EtCN and standing for 2 months. (6) The picrate of $[Pt^{II}(NH_3)_4(EtCN)]$ was obtained from 1.5 g. $[Pt(NH_3)_3(EtCN)Cl]Cl$ (as prepd. under (4)) on gradual addn. in the cold of 80 ml. of 5% NH_4OH, the dark red color clearing to light yellow in a few min.; the soln. was evapd. to dryness, the residue dissolved in water, evapd. again, and pptd. by Na picrate. (7) Similarly, from 1.5 g. $K[Pt(EtCN)Cl_3]$ (as prepd. under (3)) in 20 ml. water, with 80 ml. 5% NH_4OH, heated a short time on a water bath and left standing 15 min., was formed the sol. light yellow $[Pt(NH_3)_4(EtCN)]Cl_2$, isolated as the chloroplatinate. (8) Gradual addn. of 50 ml. 5% NH_4OH to 1 g. $[Pt(EtCN)_2Cl_2]$ (as prepd. under (2)) in 25 ml. H_2O, heated on a water bath, gave a dark yellow soln. of $[Pt(NH_3)_4(EtCN)_2]Cl_2$ from which KI pptd. the iodide. (9) From $[Pt(NH_3)_4(EtCN)]Cl_2$, a slight excess of 10% HCl splits off the EtCN even in the cold, faster on heating, giving with K_2PtCl_4 a ppt. of $[Pt(NH_3)_3Cl]_2[PtCl_4]$. Similarly, $[Pt(NH_3)_4(EtCN)_2]Cl_2$ is decompd. by 20% HCl without heating, giving a yellow ppt. of Peyronet's $[Pt(NH_3)_2Cl_2]$. (10) Both AcCN and EtCN can substitute at most 2 positions in the inner sphere of a Pt^{II} complex. The ease of decompn. of EtCN-NH_3 complexes with 4 NH_3 indicates that the excess NH_3 is bound to Pt through EtCN groups, i.e., the actual coordination no. of 4 remains unchanged; it also demonstrates that EtCN is bound to Pt less strongly than AcCN. N. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

10

Compounds of platinum with nitriles. III. V. V. Lebedinskiĭ and V. A. Golovnya. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim. Akad. Nauk S.S.S.R.* (*Ann. secteur. platine, Inst. chim. gén.*) No. 20, 84-94(1947); cf. *C.A.* 41, 6187b.—K_2PtCl_4 was dissolved in 24 ml. H_2O, filtered, 3 ml. MeCN added to the filtrate, the mixt. sealed in a glass tube, heated for 1.5 hrs. on a steam bath, filtered after cooling, and the MeCN in the filtrate pptd. with $[Pt(NH_3)_4]Cl_2$, with which it forms the insol. $[Pt(NH_3)_4][PtMeCNCl_3]_2$. To sep. the K salt of the MeCN complex, 1 mol. of the double salt was intimately ground with 1 mol. K_2PtCl_4 in a glass mortar, 15 ml. H_2O added, and the whole filtered; the filtrate contained $K[PtMeCNCl_3]$. To the soln. of the latter was added 2 ml. EtCN and the mixt. kept for approx. a month; during this time there formed a yellow lamellar substance, $[Pt(MeCN)(EtCN)Cl_2]$, insol. in H_2O or alc., decompg. at 115°. The Kurnakov reaction (with thiourea) indicated the configuration of the double nitrile was cis. When the starting salt was a propionitrile, $K[Pt(EtCN)Cl_3]$, analogous treatment with MeCN did not produce the double nitrile. Instead, EtCN was displaced entirely by MeCN and the reaction product contained 2 MeCN mols.: $K[Pt(EtCN)Cl_3] + 2MeCN \rightarrow [Pt(MeCN)_2Cl_2] + KCl + EtCN$. This salt too had the cis configuration. Na_2PtCl_6 was refluxed with MeCN in an attempt to synthesize the nitrile of 4-valent Pt; after filtering there was obtained a yellow cryst. substance which, on the basis of its analysis, is tentatively assigned the formula $[Pt(NH_3)_4Cl_2][Pt(MeCN)Cl_5]$. From this filtrate was pptd. a Cs salt corresponding to $Cs[Pt(MeCN)Cl_5]$. Thus, 4-valent Pt formed only a mononitrile.
M. Hosch

CA

Ammonia compounds of bivalent platinum. V. V. Lebedinskii and V. A. Golovnya. *Izvest. Sektora Platiny i Drug. Blagorod. Metal.*, Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R. (Ann. secteur platine, Inst. chim. gén.) No. 20, 95-8(1947). M[Pt(NH$_3$)Cl$_3$] and [Pt(NH$_3$)$_3$Cl]Cl are synthesized by dissolving 2 g. of K$_2$PtCl$_4$ in 20 ml. of H$_2$O, adding 8 ml. of 20% NH$_4$ acetate, and heating. Before the mixt. boils, 2 g. of KCl is added. After it has boiled for 1.5 hrs., the mixt. is filtered quickly through a Büchner funnel. On cooling the filtrate, [Pt(NH$_3$)$_3$Cl]Cl sepd. It is recrystd. once from hot H$_2$O acidified with HCl, yielding 70 [illegible]. [illegible] (NH$_4$)$_2$PtCl$_4$ can be used instead of K$_2$PtCl$_4$. K[Pt(NH$_3$)Cl$_3$] is obtained by [illegible] cooling as before with 4 portions of 8 ml. of 20% NH$_4$ acetate. During boiling H$_2$O is added as it evaps. and metallic Pt is filtered off when it appears. After 1.5 hrs.' boiling, the mixt. is cooled in tap water and filtered. To an aliquot of the filtrate is added a few drops of [Pt(NH$_3$)$_4$]Cl$_2$; the golden flakes of [Pt(NH$_3$)$_4$][PtNH$_3$Cl$_3$]$_2$ are examd. microscopically. If dark-green acicular [Pt(NH$_3$)$_4$][PtCl$_4$] is absent or if there is an insignificant quantity of it, the reaction is finished, otherwise the mixt. is boiled for another 15-20 min. and tested again. After cooling and filtering, the mixt. is treated with [Pt(NH$_3$)$_4$]Cl$_2$ to ppt. [Pt(NH$_3$)$_4$][PtNH$_3$Cl$_3$]$_2$. After washing, drying, and weighing, a theoretically required quantity of K$_2$PtCl$_4$ is added and the crystals are ground in an agate mortar for 1-1.5 hrs. until a greenish hue appears. A little cold H$_2$O is used to ext. K[PtNH$_3$Cl$_3$]. Grinding is continued a little longer, and the mixt. is filtered. The filtrate is concd. until crystals appear, and then cooled. The liquid is removed by suction; yield 80%. M. Hosch

C.A

Compounds of platinum with nitriles. V. V. V. Lebedinskiĭ and V. A. Golovnya. *Izvest. Sektora Platiny i Drugikh Blagorod.* ~~*Metall., Inst.*~~ *Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 22, 168-74(1948); cf. *C.A.* 44, 10566a.—$[Pt(C_6H_5CN)_2Cl_2]$ 1 g. and 20 ml. of 20% CH_3NH_2 brought to boiling produced $[Pt(C_6H_5CN)_2(CH_3NH_2)_4][PtCl_4]$. Analogously, with $C_6H_5NH_2$, $[Pt(C_6H_5CN)_2(C_6H_5NH_2)_4][PtCl_4]$ was obtained. These compds. when heated with a slight excess of 5% HCl yielded $[Pt(CH_3NH_2)_2Cl_2]$ and $[Pt(C_6H_5NH_2)_2Cl_2]$, resp. M. H.

CARD 1 / 2 PA - 1971

SUBJECT USSR / PHYSICS
AUTHOR MAN'KO,V., GAVRILOVSKIJ,B.V., GOLOVNJA,V.JA., KADARZEV,K.V., KLJUCAREV,A.P.
TITLE The Polarization of Low Energy Protons on the Occasion of Scattering by Carbon.
PERIODICAL Dokl.Akad.Nauk 111,fasc.1, 59-62 (1956)
Issued: 1 / 1957

This work was carried out by means of an electric generator. The scheme of the experiment is illustrated in form of a drawing. The measuring device consists of two vacuum chambers. An electron bundle coming from an electrostatic generator impinges upon the first carbon target M_I in chamber I and the protons scattered on this target are scattered once more on target M_{II} of chamber II. After having thus been scattered twice the protons are now registered by photoplates with an emulsion thickness of 100 . The angle Θ_1 on the occasion of the first scattering amounted to 60° in the center of mass system, and for the angle Θ_2 of the second scattering the values ± 60°, ± 120° and ± 150° in the center of mass system were selected. In connection with each irradiation 6 photoplates with an accordingly selected value of Θ_2 were exposed. The solid carbon targets were produced with much care as follows: A nitrocellulose film of from 0,2 to 0,3 thickness was pasted on to a brass ring, and upon this a colloidal graphite solution (aquadag) was poured. After drying the organic base was carefully burned off.

Dokl.Akad.Nauk 111,fasc.1, 59-62 (1956) CARD 2 / 2 PA - 1971

The authors carried out a number of exposures at the values E_0 = 1,9; 2,0; 2,1; 2,2; 2,3 and 2,4 MeV of the protons impinging on to the target M_I. The expositions lasted from 5 to 20 hours at an amperage of 1-2 milliampères. For individual expositions the authors determined the energy spectrum of the protons scattered on the target M_{II}. A diagram illustrates the case Θ_2 = 60° at an initial energy of the protons of 2,1 MeV. The thickness of the target M_I amounted to 0,80 mg/cm^2 and that of the target M_{II} amounted to 0,65 mg/cm^2. From 300 to 1000 protons were recorded on the photoplates per exposition. The ratio of the number of acts of scattering to the right and to the left means for each absolute value of Θ_2 the measure of the azimuthal asymmetry of the scattering of the protons by the target M_{II} and therefore also a measure of polarization in connection with the scattering $C^{12}(p,p)$. The authors subjected the energy dependence of the right-and-left asymmetry for Θ_2 = 60° with the closest attention. The data found on this occasion, which were averaged over the individual expositions, are given in form of a table. At an initial energy of the protons of from [illegible] to 2,4 MeV and at Θ_2 = 60° it is possible, in the case of the targets used in this case, to investigate the polarization of the protons on the occasion of $C^{12}(p,p)$-scattering in the interval 1,6-2,4 MeV by measuring asymmetry. Also the experimental results for Θ_2 = 120° and Θ_2 = 150° are illustrated in form of a table. The results agree well with the corresponding theory.

INSTITUTION: Physical-Technical Institute of the Academy of Science of the Ukrainian SSR

GOLOVNYA, V.A.; SOKOL, S.K.

Formamidinesulfinic compounds of bivalent platinum. Zhur.neorg. khim. 2 no.7:1528-1534 Jl '57. (MIRA 10:11)

(Platinum compounds)

CHERNYAYEV, I.I.; GOLOVNYA, V.A.; SHCHELOKOV, R.N.

Dioxalatouranylammonium hydrates. Zhur. neorg.khim. 2 no.8:1763-1767 Ag '57.
(MIRA 11:3)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.
(Ammonium compounds) (Hydrates)

GOLOVNYA, V. A. (and I. I. Chernyayev, G. V. Ellert, R. N. Shelokov, V. P. Markov)

"THE STRUCTURE OF COMPLEX URANYL COMPOUNDS".

By I. I. Chernyayev. V. A. Golovnya, G. V. Ellert, R. N. Shelokov and V. P. Markov.

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept. 1958.

GOLOVNYA, V.

CHERNYAYEV, I., GOLOVNYA, V. and MOLODKIN, A.

"Thorium Complex Carbonate Compounds."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

78-3-6-10/30

AUTHORS: Golovnya, V. A., Ivanova, O. M.

TITLE: Trimethyl Thiocarbamide Compounds of Platinum-(IV) (Trimetiltiokarbamidnyye soyedineniya chetyrekhvalentnoy platiny)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 6, pp. 1347-1354 (USSR)

ABSTRACT: In the present paper the production of new thiourea compounds of platinum-(IV) is described for the first time.
The investigated electric conductivity of the aqueous solutions of these compounds indicates the presence of two ionic electrolytes.
In the interaction between trimethyl triamine platinum iodide and an excess of thiourea a yellow, finely crystalline body, soluble in water and alcohol and almost insoluble in benzene and chloroform forms. The compound has the following composition: $[Pt(CH_3)_3(Thio)_3][C_6H_2(NO_2)_3O]$.
In the interaction between trimethyl triamine platinum iodide or chloride and 3 mols thiourea the following compositions form: $[Pt(CH_3)_3(Thio)_3]J$ and $[Pt(CH_3)_3(Thio)_3]Cl$.
In the interaction between trimethyl triamine platinum iodide

Card 1/2

Trimethyl Thiocarbamide Compounds of Platinum-(IV) 78-3-6-10/30

and 2 mols thiourea the following compound forms: $[Pt(CH_3)_3NH_3(Thio)_2]J$.

In the interaction between trimethyl triamine platinum chloride and 2 mols or 1 mol thiourea the following compounds form: $[Pt(CH_3)_3NH_3(Thio)_2]Cl$ or $[Pt(CH_3)_3(NH_3)_2Thio]Cl$.

It was demonstrated that the alkyl groups in the inner domain of the platinum complex cannot be exchanged by thiourea.

There are 1 table and 12 references, 9 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova, AN SSSR (Institute of General and Inorganic Chemistry im. N. S. Kurnakov, AS USSR)

SUBMITTED: May 21, 1957

AVAILABLE: Library of Congress

1. Platinum compounds--Production 2. Trimethyl thiocarbamide --Applications

Card 2/2

AUTHORS: Golovnya, V. A., Pospelova, L. A. SOV/78-3-10-6/35

TITLE: Carbonate Compounds of Trivalent Cerium (Karbonatnyye soyedineniya trekhvalentnogo tseriya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 10, pp 2253-2260 (USSR)

ABSTRACT: The complex carbonate compounds were ascertained by systematical investigations. The synthesis that is formed by cerium-dicarbonate complexes together with ions of ammonium and sodium was described. The complexes of cerium-dicarbonate have the following empirical composition:

$Na_2CO_3.Ce_2(CO_3)_3.12\ H_2O$

$K_2CO_3.Ce_2(CO_3)_3.\ 12\ H_2O$

$(NH_4)_2CO_3.Ce_2(CO_3)_3.6\ H_2O$

$Tl_2CO_3.Ce_2(CO_3)_3.6\ H_2O$

These complex compounds are expressed by the following stoichiometric formulae: $Me\left[Ce(CO_3)_2\right].n\ H_2O$.

Dicarbonate-cerium complexes are soluble in excess alkaline carbonate solutions. The tetra- and pentacarbonate complexes of

Card 1/2

SOV/78-3-10-6/35

Carbonate Compounds of Trivalent Cerium

cerium were produced. The tetracarbonate-cerium complex was isolated by guanidine and cobalt hexamine: $(CN_3H_6)_5[Ce(CO_3)_4]\cdot 2\,H_2O$ and $[Co(NH_3)_6]_5[Ce(CO_3)_4]_3\cdot 15\,H_2O$.
The synthesis of compounds of pentacarbonate-cerium complexes was also carried out by guanidine and cobalt hexamine:
$(NH_4)_5[Co(NH_3)_6]_3[Ce(CO_3)_5]_2\cdot 12\,H_2O$ and
$(CN_3H_6)_5[Co(NH_3)_6]_3[Ce(CO_3)_5]_2\cdot 12\,H_2O$.
The compounds of the pentacarbonate of cerium are coarsely crystalline and show a distinct yellow-orange color. The compounds were analytically, crystaloptically and thermographically investigated. It can be seen from the thermogram that three effects appear: the first at 80°C, which corresponds to the dehydration, and the third, which indicates the decomposition of the compound. There are 6 figures, 1 table, and 13 references, 0 of which is Soviet.

SUBMITTED: May 16, 1958

Card 2/2

CHERNYAYEV, I.I.; GOLOVNYA, V.A.; MOLODKIN, A.K.

Hydrated forms of thorium sodium pentacarbonate. Zhur.neorg.khim.
3 no.12:2671-2686 D '58. (MIRA 12:1)
(Thorium sodium carbonates)

GOLOVNYA, V.A.

PHASE I BOOK EXPLOITATION SOV/3084

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958.

Doklady sovetskikh uchenykh. [t.4] Khimiya radioelementov i radiatsionnykh prevrashcheniy (Reports of Soviet Scientists. v. 4.: Chemistry of Radioelements and Radiation Transformations) Moscow, Atomizdat, 1959. 323 p. 8,000 copies printed. (Series: Its: Trudy)

Ed. (Title page): A. P. Vinogradov, Academician; Ed.: V. I. Labazov; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This collection of articles is intended for scientists and engineers interested in the applications of radioactive materials in science and industry.

COVERAGE: The book contains 26 separate studies concerning various aspects of the chemistry of certain radioactive elements and the processes of radiation effect on matter. These reports discuss present-day methods of reprocessing irradiated nuclear fuel, research in the chemistry of [illegible], thorium, uranium, plutonium, and americium, problems related to the sorption and burying of radioactive wastes, the radiolysis of aqueous solutions and of organic compounds, the mechanism of polymer chain grafting, and the effect of radiation on natural and synthetic rubbers. V. N. Prusakov edited the present volume. Most of the reports are accompanied by references. Contributors to individual investigations are mentioned in annotations to the Table of Contents.

TABLE OF CONTENTS:

Vinogradov, A. P. Meteorites and the Earth's Crust (The Geochemistry of Isotopes) (Report No. 2525) 5

Shevchenko, V. B., I. G. Povitskiy, and A. S. Solovkin. Some Special Problems in the Reprocessing of Irradiated Heat-Producing Elements of the First Atomic Electric Power Plant of the USSR (Report No. 2182) 26
[The following personalities are mentioned as having taken part in this investigation: K. M. Indikov, K. P. Lunichkina, Yu. V. Ukraintsev, L. N. Tsvetkova, and V. V. Chubukov.]

Vdovenko, V. M., and M. P. Koval'skaya. Separation of Uranium and Plutonium From Fission Products by Extraction With a Mixture of Dibutyl Ether and Carbon Tetrachloride (Report No. 2216) 34

Vdovenko, V. M. Distribution of Fragmentation Elements in the Process of the Ether Extraction of Uranium and Plutonium (Report No. 2206) 41

Prusakov, V. N., N. P. [illegible], and N. M. Trotsenko. Dry Method of Regenerating Irradiated Uranium (Report No. 2253) 49
[The authors thank I. K. Kikoin and A. T. Kolotukhin.]

Brezhneva, N. Ye., V. I. Levin, G. V. Korpusov, N. M. Man'ko, Ye. K. Bogacheva, L. I. [illegible], and G. F. Platnova. Separation of Fragmentation Radioactive Elements (Report No. 2295) 57
[The authors thank S. Z. Roginskiy, Corresponding Member AS USSR.]

Ryabchikov, D. I., M. M. Senyavin, and Yu. S. Sklyarenko. Separation of Individual Rare Earth Elements (Report No. 2231) 73

Nikol'skiy, B. P., and V. I. Paramonova. Using Ion-Exchange to Study the State of Radioactive Substances in Solution (Report No. 2204) 89

Chernyayev, I. I., V. A. Golovnya, G. V. Ellert, R. N. Shchelokov, and V. P. Markov. Contribution to the Problem of the Structure of the Complex Compounds of Uranyl (Report No. 2138) 98
[The individual studies of the following researchers have been included in the last part of this paper: Ye. N. Traggeym, L. K. Shubochkin, N. V. Sergeyeva, and L. V. Tumpkina.]

Chernyayev, I. I., V. A. Golovnya, and A. K. Molodkin. Complex Carbonate Compounds of Thorium (Report No. 2136) 126
[A. M. Rubinshteyn is mentioned for his part in this study.]

(22)

5(2)
AUTHORS: Golovnya, V. A., Sokol, S. K. SOV/78-4-3-18/34

TITLE: Method for the Quantitative Precipitation of Platinum From Solutions (Metod kolichestvennogo vydeleniya platiny iz rastvorov)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3, pp 596-598 (USSR)

ABSTRACT: The quantitative precipitation of platinum with thiourea dioxide $(NH_2)_2CSO_2$ was investigated. In connection with the interaction of thiourea dioxide with platinum compounds black or brown sulfidic precipitations are formed in a variable composition. A quantitative precipitation of platinum is only possible from sulfuric acid solutions. The precipitation of platinum by means of thiourea dioxide from solutions containing nitrites, chlorides, amines, iodide ions, and other platinum compounds lead in the case of acidification with sulfuric acid to a quantitative separation. In the presence of palladium, rhodium, gold, ruthenium, and silver the above-mentioned elements are also coprecipitated. A separation of platinum from iridium by thiourea dioxide is

Card 1/2

Method for the Quantitative Precipitation of Platinum From Solutions SOV/78-4-3-18/34

possible as iridium does not precipitate. There are 1 table and 4 references, 1 of which is Soviet.

ASSOCIATION: Institut obshchey neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: December 23, 1957

Card 2/2

SOV/78-4-7-44/44

5(2)

AUTHORS: Golovnya, V. A., Pospelova, L. A.

TITLE: Reply to an Article by D. I. Ryabchikov "On the Valence State of Metal in Cerium Tetracarbonate" (Otvet na stat'yu D. I. Ryabchikova "O valentnom sostoyanii metalla v tetrakarbonate tseriya")

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1699-1701 (USSR)

ABSTRACT: The authors investigated the potentiometric data of D. I. Ryabchikov and are not able to confirm his statement about a tetravalent Ce in the guanidine complex with a formula $(CN_3H_6)_4[Ce(CO_3)_4]\cdot 2H_2O$. Their titration with Mohr's salt and with $KMnO_4$ (Figs 1,2) lead to different results. They maintain their opinion concerning a trivalent Ce and the formula $(CN_3H_6)_5[Ce(CO_3)_4\cdot 2H_2O]$ and show (Fig 3) the variously structured crystals of the two compounds, which exclude an error. There are 3 figures and 2 Soviet references.

Card 1/2

SOV/78-4-7-44/44

Reply to an Article by D. I. Ryabchikov "On the Valence State of Metal in Cerium Tetracarbonate"

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute for General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: March 3, 1959

Card 2/2

USCOMM-DC-61,250

5 (2)

AUTHORS: Babayeva, A. V., ~~Golovnya, I. A.~~, Nazarova, L. A. SOV/78-4-8-7/43

TITLE: On Complex Compounds of Platinum and Dichloro Diethyl Sulphide (O kompleksnykh soyedineniyakh platiny s dikhlordietilsul'fidom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1741 - 1746 (USSR)

ABSTRACT: In contrast to thiourea and organic monosulphides (R-S-R) dichloro diethyl sulphide $S(C_2H_4Cl)_2$, termed also as yperite, is capable of entering the internal sphere of the platinum complex compound only with maximally two molecules and it is not capable of substituting ammonia or amines. The platinum complex compounds of yperite are very unstable, an yperite molecule is easily separated by heating. Yperite reacts especially easily with acido complex compounds of platinum. With $K_2[PtCl_4]$ it forms an almost quantitative precipitate of the composition $Pt2S(C_2H_4Cl)_22Cl$ the trans-form of which was confirmed by the reaction with NH_3: amino-thioglycol-electrolyte

Card 1/2

On Complex Compounds of Platinum and Dichloro Diethyl Sulphide SOV/78-4-8-7/43

$[PtS(C_2H_4OH)_2(NH_3)_3]Cl_2$ is formed. NH_3 thus has not only displaced the two chlorine substituents but also one molecule of yperite which may be explained by the trans-effect. The saponification of yperite into thioglycol took place due to the NH_3 excess. With $K_2[PtNO_2Cl_3]$ yperite reacts under formation of $[Pt2S(C_2H_4Cl)_2NO_2Cl]$ with cis-configuration, as was proved by the reaction with pyridine, Since yperite is not capable of displacing NH_3 from the platinum complex compounds it substitutes the two chlorine atoms in cis-position in the cis-dichloro diamino platinum. Also in the reactions with tetravalent platinum only two yperite molecules act and are saponified. It was found that under the action of pyridine a mixture of cis- and trans-isomers is formed. There are 6 Soviet references.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: May 16, 1958

Card 2/2

5.2620

68108

SOV/78-5-1-10/45

~~5~~(2)

AUTHORS: Golovnya, V. A., Kokh, L. A.

TITLE: A New Type of Monocarbonate of Trivalent Cobalt

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 56 - 62 (USSR)

ABSTRACT: The authors report on their attempts of replacing the acid group by carbonate groups in complex compounds of Co(III) and obtaining the asidocarbonates and aminoasidocarbonates. They started from Erdmann salt, $NH_4[Co(NH_3)_2 \cdot (NO_2)_4]$ (Ref 9), which forms red crystals in a saturated $KHCO_3$ solution at 50° - 60° after 5-6 hours. The analysis of the crystals shows the following composition: $K[Co(NH_3)_2 \cdot (NO_2)_2 \cdot (CO_3)]2 \cdot H_2O$. The thermograms of this salt and of the anhydrous compound free from water of crystallization (Figs 1,2), the analysis, the molecular electrical conductivity, and the refractive indices prove the individuality of this compound and the formula set up. During cooling crystals of the guanidine derivative of cobaltidiamminodinitromonocarbonatewere precipitated by the addition of concentrated

4

Card 1/2

68108

A New Type of Monocarbonate of Trivalent Cobalt SOV/78-5-1-10/45

guanidine-carbonate solution to the concentrated solution of the above salt at 60° - 70°: $(CN_3H_6)[Co(NH_3)_2(NO_2)_2(CO_3)]$. Moreover, the compound $[Co(NH_3)_6]\cdot[Co(NH_3)_2(NO_2)_2(CO_3)]_3\cdot 2H_2O$ was obtained by the reaction with $[Co(NH_3)_6]Cl_3$, and the compound $[CoEn_3][Co(NH_3)_2(NO_2)_2(CO_3)]_3\cdot 6H_2O$ with $[CoEn_3]Cl_3$ (En = ethylenediamine). The thermograms of these salts and of the compounds free from water of crystallization are shown (Figs 3-7). The data of analysis, the molecular electrical conductivities, and the refractive indices are given. The authors mention the rule of cycles by L. A. Chugayev. There are 7 figures and 11 references.

4

SUBMITTED: September 25, 1957

Card 2/2

~~6~~68557

S/078/60/005/05/09/037
B004/B016

5.2300

AUTHORS: Golovnya, V. A., Pospelova, L. A.

TITLE: Carbonate Compounds of Tetravalent Cerium 21

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 5, pp. 1036-1043

TEXT: This paper was intended to study the capability of Ce(IV) of forming complexes mainly on carbonate basis, and to attempt to synthesize a compound containing more carbonate groups than the pentacarbonate of Lortié (Ref. 3). The authors describe the following syntheses: 1) sodium pentacarboceriate $Na_6[Ce(CO_3)_5H_2O].11H_2O$ (analysis in table 1, thermogram in Fig. 1); 2) guanidine pentacarboceriate $(CN_3H_6)_6[Ce(CO_3)_5H_2O].H_2O$ (analysis in table 2), and the same compound with 3 molecules of crystallization water (Table 3) and 4 molecules of crystallization water (Table 4); 3) guanidine ammonium pentacarboceriate $NH_4(CN_3H_6)_5[Ce(CO_3)_2H_2O].4H_2O$ (Table 5); cobalt(III)-hexammine-pentacarboceriate $[Co(NH_3)_6]_2[Ce(CO_3)_5H_2O].5H_2O$

~~65924~~ 69534

Carbonate Compounds of Tetravalent Cerium

S/078/60/005/05/09/037
B004/B016

(Table 6). Fig. 2 shows the thermogram of this compound with 4 molecules of crystallization water, Fig. 8 without crystallization water; 5) potassium pentacarboceriate $K_6[Ce(CO_3)_5H_2O]\cdot H_2O$ (Table 7, thermogram Fig. 7). On the basis of the paper by Yu. M. Tolmachev (Ref. 10) the tetracarboceriates corresponding to the compounds of Th^{4+} were expected to occur, and their synthesis was carried out: a) the guanidine salt $(CN_3H_6)_4[Ce(CO_3)_4(H_2O)_2]$ with different crystal water content (Table 8, thermograms Figs. 3,5,6), and the guanidine ammonium salt $(NH_4)_2\cdot(CN_3H_6)_2[Ce(CO_3)_4(H_2O)_2]$ (Table 9, thermogram Fig. 4). Further, the ammonium cobalt(III)-hexammine-hexacarboceriate $(NH_4)_2[Co(NH_3)_6]_2[Ce(CO_3)_6]\cdot 4H_2O$ was synthesized (Table 10). It may be seen from the thermograms that the tetracarboceriates contain two molecules of water in the inner sphere, the pentacarboceriates only one, and the hexacarboceriates none at all. The structure of these compounds is schematically shown in Fig. 9. The potentiometric titration of guanidine pentacarboceriate (Table 11), and of ammonium guanidine tetracarboceriate (Table 12) is graphically shown in Fig. 10. The results are indicative of an unequal bonding of the CO_3^{2-}-groups in the inner sphere. The coordination

Card 2/3

✓

~~65934~~ 69534

Carbonate Compounds of Tetravalent Cerium

S/078/60/005/05/09/037
B004/B016

number of tetravalent Ce equals 8 in its carbonate complexes. There are 10 figures, 12 tables, and 14 references, 4 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences of the USSR)

SUBMITTED: November 4, 1959

Card 3/3

S/078/60/005/007/022/043/XX
B004/B060

AUTHORS: Chernyayev, I. I., Golovnya, V. A., Shchelokov, R. N.

TITLE: Aquo-oxalato Sulfate Compounds of Uranyl

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7, pp. 1454 - 1466

TEXT: The main results of this study were submitted to the Second International UNO Conference on the Peaceful Use of Atomic Energy. The authors first point out the difficulties involved in the synthesis of mixed acido complexes of uranyl which account for the scarceness of data available. In the work concerned here the authors started by investigating the possibility of substituting addenda by others (for the purpose of finding the rules governing relationships), and obtained the following series: $CO_3^{2-} > F^- > C_2O_4^{2-} > SO_4^{2-}$. On the basis of the result obtained, the mixed acido complexes were synthesized by addition reactions. The authors started from $UO_2C_2O_4 \cdot 3H_2O$ which was reacted with alkali sulfate, and obtained the oxalate-sulfate compounds of UO_2. For comparison, pure

Card 1/4

Aquo-oxalato Sulfate Compounds of Uranyl

S/078/60/005/007/022/043/XX
B004/B060

oxalate complexes were synthesized from uranyl oxalate and alkali oxalate, and pure sulfate complexes from uranyl sulfate and alkali sulfate. The following compounds were obtained: 1) $K_2[UO_2(C_2O_4)(SO_4)(H_2O)_2]\cdot H_2O$. The thermogram of this compound allows two effects to be identified: separation of the three H_2O molecules at 70 - 125°C, and destruction of the oxalate groups at 305 - 320°C. At 150°C, this substance losses all three H_2O molecules, which, however, are again added on standing in the air; this was confirmed both gravimetrically and analytically (Table 2). 2) $K_2[UO_2(C_2O_4)_2(H_2O)_2]H_2O$. This compound loses all three water molecules at 110°C. Two H_2O molecules are added stepwise on standing in the air, but not the third one. 3) $K_2[UO_2(SO_4)_2(H_2O)_2]$. In these three potassium compounds, a decrease in stability of the inner sphere of the complex ion was observed with an increase in molecular electrical conductivity μ:

Card 2/4

Aquo-oxalato Sulfate Compounds of Uranyl

S/078/60/005/007/022/043/XX
B004/B060

$K_2[UO_2(C_2O_4)_2(H_2O)_2] \rightarrow K_2[UO_2(C_2O_4)(SO_4)(H_2O)_2] \rightarrow K_2[UO_2(SO_4)_2(H_2O)_2]$

$\mu = 262$ ohm^{-1}.cm^2 $\mu = 320$ ohm^{-1}.cm^2 $\mu = 433$ ohm^{-1}.cm^2

The same rule also holds for the following complex compounds: 4) $Rb_2[UO_2(C_2O_4)(SO_4)(H_2O)_2]$; 5) $Rb_2[UO_2(C_2O_4)_2(H_2O)_2]$; 6) $Rb_2[UO_2(SO_4)_2(H_2O)_2]$; 7) $Cs_2[UO_2(C_2O_4)(SO_4)(H_2O)_2]$; 8) $Cs_2[UO_2(C_2O_4)_2(H_2O)_2]$, and 9) $Cs_2[UO_2(SO_4)_2(H_2O)_2]$. Compound $Cs(NH_4)[UO_2(C_2O_4)(SO_4)(H_2O)_2]$ resulted from an attempt to obtain cesium oxalate sulfate as in the case of the rubidium compound by an exchange reaction between $UO_2C_2O_4 \cdot 3H_2O$, $(NH_4)_2SO_4$, and Cs_2SO_4 as an aquo complex. Crystal microphotographs are given for some of the compounds, and for most of them the values of μ, pH, and thermograms of the water molecule loss on heating are given including gravimetric data for the re-addition of H_2O on standing. There are 13 figures, 18 tables, and 13 references: 3 Soviet, 1 Belgian, 2 French, and 5 German.

Card 3/4

Aquo-oxalato Sulfate Compounds of Uranyl

S/078/60/005/007/022/043/XX
B004/B060

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: April 6, 1959

Card 4/4

S/078/60/005/007/024/043/XX
B004/B060

AUTHORS: Golovnya, V. A., Ni Tszya-tszyan'

TITLE: Complex Compounds of Platinum With Nitriles

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7, pp. 1474 - 1480

TEXT: This is a continuation of the authors' study of complex compounds of platinum with nitriles (Refs.1-7). The compounds described here were obtained by the reaction $K_2[PtCl_4]+2RCN\ [Pt2RCN2Cl]+2KCl$. Their synthesis is rendered difficult by the poor solubility of nitriles with higher molecular weights so that the reaction was interfacial and was terminated after 20 days only. Cis-dichloro-dinitrile platinum compounds are formed by the said reaction. Their structure was proved by the Kurnakov reaction (reaction with thiourea). The following compounds were obtained with $K_2[PtBr_4]$: $[Pt2CH_3CN2Br]$, $[Pt2C_2H_5CN2Br]$, $[Pt2C_3H_7CN2Br]$, $[Pt2C_4H_9CN2Br]$, and $[Pt2C_6H_5CN2Br]$. It was not possible to synthesize compounds $[Pt2RCN2I]$ and $[Pt2RCN(NO_2)_2]$, the cause being said to be the strong trans-effect of

Card 1/3

I and NO_2. Nitrile complexes of platinum allowed to react with HCl or HBr give rise to $(NH_4)_2[PtX_4]$, (X = Cl, Br). Different reaction rates were, however, observed (Table 1). The reaction takes 30 min for acetonitrile, and as much as 12 hours for benzonitrile. All thermograms (Fig.1, Table 2: thermal effects) show a last effect at 220°C. It was found by analysis that nitrile is first separated from platinum, with $PtCl_2$ or $PtBr_2$ resulting as the end product. The solubility of the compounds in H_2O, C_2H_5OH, $CHCl_3$, $CO(CH_3)_2$, $(C_2H_5)_2O$, and CH_3OH was determined (Table 3) along with the refractive indices of $[Pt2CH_3CN2Cl]$, $[Pt2C_2H_5CN2Cl]$, $[Pt2C_3H_7CN2Cl]$, $[Pt2C_4H_9CN2Cl]$, $[Pt2C_6H_5CN2Cl]$, and $[Pt2CH_3CN2Br]$ (Table 4). The bromides of the higher nitrile compounds were soluble in immersion liquids. The measurement of electrical conductivity of the chloro- and bromo divaleronitrile compound well soluble in methanol (Fig.2) proved the two compounds to be nonelectrolytes. The conductivity of the bromine compound is, however, higher due to the hydrolysis taking place more readily.

Complex Compounds of Platinum With Nitriles S/078/60/005/007/024/043/XX
B004/B060

The synthesis of $[Pt2CH_3CN2Br]$ was performed by the addition of an excess CH_3CN to $K_2[PtBr_4]$. A crystalline yellow precipitate formed after three days, the analysis of which fitted the formula given. The following compounds were obtained in the same way: $[Pt2C_2H_5CN2Br]$; $[Pt2C_3H_7CN2Br]$; $[Pt2C_4H_9CN2Br]$; $[Pt2C_6H_5CN2Br]$. The analyses of these compounds are indicated in Table 5. Analyses concerning the corresponding chlorine compounds synthesized in the experiments under consideration $[Pt2C_3H_7CN2Cl]$, $[Pt2C_4H_9CN2Cl]$, and $[Pt2C_6H_5CN2Cl]$, are given in Table 6. There are 2 figures, 6 tables, and 14 references: 9 Soviet, 1 British, 1 French, and 3 German.

SUBMITTED: January 7, 1960

S/078/60/005/007/025/043/XX
B004/B060

AUTHORS: Chernyayev, I. I., Golovnya, V. A., Ellert, G. V.

TITLE: The Complex Nature of Uranates

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7, pp. 1481 - 1492

TEXT: This is a theoretical study of the complex formation of uranates on the basis of the coordination theory and in consideration of compounds synthesized by other researchers and by the authors themselves. After a general description of notions concerning the coordination theory by means of reactions of amphoteric hydroxides, the authors derive some genetic series of complex compounds of uranyl: Table 1. Genetic series of carbonates

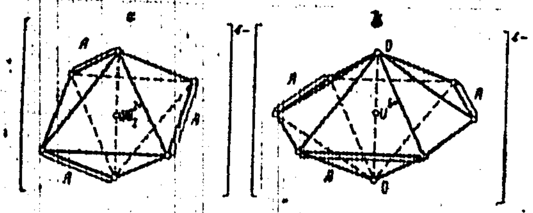
√

Compound	mole U/mole CO_3
$M_4^+[UO_2(CO_3)_3]$	1 : 3
$M_6^+[(UO_2)_2(CO_3)_5(H_2O)_2]$	1 : 2.5
$M_2^+[UO_2(CO_3)_2(H_2O)_2]$	1 : 2.0
$M_3^+[(UO_2)_2(OH)(CO_3)_3(H_2O)_5]$	1 : 1.5
$M^+[UO_2(OH)CO_3(H_2O)_3]$	1 : 1.0
$M^+[(UO_2)_2(OH)_3CO_3(H_2O)_7]$	1 : 0.5

Card 1/5

The Complex Nature of Uranates S/078/60/005/007/025/043/XX
B004/B060

The coordination number 6 results from this series for the uranyl ion. The various addenda are substituted according to the series: $CO_3^{2-} > F^- > OH^- > C_2O_4^{2-} > CH_3CO_2^- > SO_4^{2-}$. While the formation of binary compounds by means of bridges of CO_3^{2-}, $C_2O_4^{2-}$, SO_4^{2-}, and F^- is proved, that of polymer chains with more than two uranyl groups is called in question. The structure of binary complexes is discussed with Fig.1.



Legend to Fig.1: Structure of complex compounds of uranyl a - octahedral, b - dodecahedral, A = bivalent acid radical.

On the strength of crystal-optical and X-ray data, the dodecahedral structure is said to be the right one. Table 2 shows the genetic series

Card 2/5

The Complex Nature of Uranates

S/078/60/005/007/025/043/XX
B004/B060

for the hydroxo compounds of uranyl.

Table 2. Genetic series of hydroxo compounds of uranyl.

No.	Type	U/OH	Example
1	$[(UO_2)_2(OH)]^{3+}$	1 : 0,5	$M_3^+[(UO_2)_2(OH)(CO_3)_3(H_2O)_5]$
2	$[UO_2(OH)]^+$	1 : 1,0	$M^+[UO_2(OH)CO_3(H_2O)_2]$
3	$[(UO_2)_2(OH)_3]^+$	1 : 1,5	$M^+[(UO_2)_2(OH)_3CO_3(H_2O)_x]$
4	$[UO_2(OH)_2]^0$	1 : 2,0	$[UO_2(OH)_2(NH_2OH)_2H_2O]$
5	$[(UO_2)_2(OH)_5]^-$	1 : 2,5	Нет 1)
6	$[UO_2(OH)_3]^-$	1 : 3,0	$M^+[UO_2(OH)_3(NH_2OH)_2]$
7	$[(UO_2)_2(OH)_7]^{3-}$	1 : 3,5	Нет 1)
8	$[UO_2(OH)_4]^{2-}$	1 : 4,0	$M_2^+[UO_2(OH)_4(NH_2OH)_2]$
9	$[(UO_2)_2(OH)_9]^{5-}$	1 : 4,5	Нет 1)
10	$[UO_2(OH)_5]^{3-}$	1 : 5,0	Нет 1)
11	$[(UO_2)_2(OH)_{11}]^{7-}$	1 : 5,5	Нет 1)
12	$[UO_2(OH)_6]^{4-}$	1 : 6,0	Нет 1)

Legend to Table 2:
1 = none

Compounds synthesized by other researchers, and the following compounds synthesized by the authors, are listed as examples of this series: $(NH_4)_3[(UO_2)_2(OH)(CO_3)_3(H_2O)_5]$ and the corresponding Ag, Ba, and Tl salt, as well as $(NH_4)[UO_2(OH)CO_3(H_2O)_2]$.

Analytical data are given. The X-ray structural analysis was performed by V. G. Kuznetsov at the authors' institute. The links of this series are

Card 3/5

The Complex Nature of Uranates

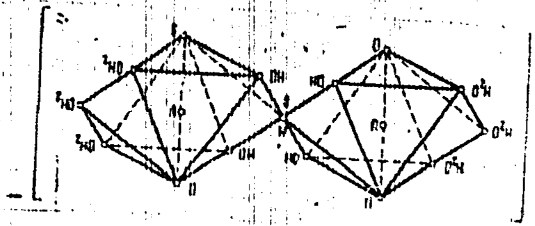
S/078/60/005/007/025/043/XX
B004/B060

discussed, and the difficulties met in synthesizing aquo-hydroxyl complexes are mentioned. Above all, the crystal-optical and X-ray identifications are rendered difficult by the microcrystalline structure of these compounds. As opposed thereto, the analogous genetic series of aquo-fluoro compounds is almost completely known (Table 3). The existence of the nonsynthesized compound $[(UO_2)_2F_{11}]^{7-}$ is dubious. The authors discuss the direct determination of hydroxyl groups in some of the compounds. Reference is made to papers by V. P. Markov and V. V. Tsapkin (Ref. 15), who performed the substitution of the OH group by means of fluorine following I. V. Tananayev's method, and titrated the resulting alkaline solution. The authors synthesized the compound $K_3[UO_2(OH)(CO_3)_2(H_2O)]$, whose analytical data are supplied. Fig. 2 shows the dodecahedral structure for $[UO_2(OH)_2(H_2O)_4]$, and Fig. 4 that for $M^+[UO_2(OH)_3(H_2O)_3]$. Fig. 3 illustrates the structure of the binary complex $M^+[(UO_2)_2(OH)_5(H_2O)_6]$:

Card 4/5

The Complex Nature of Uranates

S/078/60/005/007/025/043/XX
B004/B060



S. A. Brusilovskiy and O. Ye. Zvyagintsev are mentioned. There are 4 figures, 3 tables, and 30 references: 12 Soviet, 4 British, 2 Dutch, 3 French, 4 German, 1 Italian, and 1 Swiss.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: January 29, 1960

Card 5/5

S/078/60/005/009/023/040/XX
B017/B058

AUTHORS: Golovnya, V. A. and Ni Tszya-tszyan'

TITLE: Oxidation of Platinum Dinitrile Complex Compounds

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 9, pp. 1954 - 1958

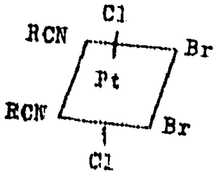
TEXT: The oxidation of platinum dinitrile complex compounds of the type $[Pt2RCN2X]$ in various solvents by chlorine and bromine was studied. The reaction rate required for the conversion of dinitrilodichloroplatinum into platinum-bromide compounds varies for different nitrile compounds. It decreases from the acetonitrile to the benzonitrile compound. $(NH_4)_2[PtBr_6]$ was synthesized through oxidation of dinitriloplatinum $[Pt2RCN2X]$ in ethanolic solution by liquid bromine. The chemism of oxidation of chloro- and bromonitriloplatinum compounds by chlorine and bromine in bromoform and chloroform solutions was explained, and it was established that dinitrilotetracid compounds

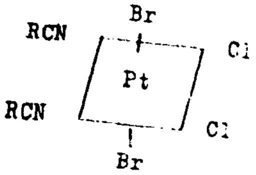
Card 1/3

Oxidation of Platinum Dinitrile Complex Compounds

S/078/60/005/009/023/040/XX
B017/B058

of the following form develop in this case:





√

The syntheses of the following new tetraacidodinitrile complex compounds of tetravalent platinum are given:
$[\mathrm{Pt2C_2H_5CN4Cl}]$, $[\mathrm{Pt2C_3H_7CN4Cl}]$, $[\mathrm{Pt2C_4H_9CN4Cl}]$, $[\mathrm{Pt2C_6H_5CN4Cl}]$, $[\mathrm{Pt2C_2H_5CN2Cl.2Br}]$, $[\mathrm{Pt2C_3H_7CN2Cl.2Br}]$, $[\mathrm{Pt2C_4H_9CN2Cl.2Br}]$, $[\mathrm{Pt2C_6H_5CN2Cl.2Br}]$, $[\mathrm{Pt2C_2H_5CN4Br}]$, $[\mathrm{Pt2C_3H_7CN4Br}]$, $[\mathrm{Pt2C_4H_9CN4Br}]$.

Card 2/3

Oxidation of Platinum Dinitrile Complex Compounds

S/078/60/005/009/023/040/XX
B017/B058

$[Pt2C_6H_5CN4Br]$, $[Pt2C_2H_5CN2Br.2Cl]$

The formulas and percentual compositions of the new compounds are listed in Tables 2 to 5. There are 5 tables and 7 Soviet references.

SUBMITTED: March 14, 1960

✓

Card 3/3

85605

5.2620 2209, 1273, 1318

S/078/60/005/010/022/030/XX
B017/B067

AUTHORS: Golovnya, V. A., Pospelova, L. A., and Bolotova, G. T.

TITLE: Acido Complex Compounds of Cerium (IV) and Uranium (IV)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2204-2210

TEXT: On the basis of the coordination theory, the authors derive genetic series of complexes of tetravalent uranium and tetravalent cerium with different acid addenda. Table 1 shows such series of uranium (IV) and cerium (IV) from diacido- to hexaacido sulfate complexes. The coordination number of complex compounds of cerium (IV) and uranium (IV) is 8. Water enters these complex compounds as inner addendum so that in all cases, even when not all places are occupied by acido groups, the coordination number is 8. The thermographic analyses of the sulfate compounds of uranium (IV) and cerium (IV) indicate that four water molecules are contained in the inner sphere of complex compounds. Table 2 shows the dehydration temperatures of cerium (IV)- and uranium (IV)-sulfate complexes with eight water molecules and with four water molecules. The distribution of the addenda

X

Card 1/3

85605

Acido Complex Compounds of Cerium (IV) and Uranium (IV)

S/078/60/005/010/022/030/XX
B017/B067

in the inner spheres of penta- and hexasulfate complex compounds is discussed. It is assumed that bivalent acid radicals are also capable of occupying two coordination places. The authors succeeded in synthesizing the following complexes with two different acid addenda by partial, gradual exchange of the addenda of the inner sphere: $Rb_4[U_2(C_2O_4)_3(SO_4)_3]\cdot 6H_2O$; $(NH_4)_6[U_2(C_2O_4)_3(SO_4)_4]\cdot 4H_2O$; $Rb_6[U_2(C_2O_4)_3(SO_4)_4]\cdot 4H_2O$; $(CN_3H_6)_3NH_4[U(CO_3)_3C_2O_4]\cdot nH_2O$; $(CN_3H_6)_8(NH_4)_2[U_2(CO_3)_8C_2O_4]\cdot 6H_2O$; $(CN_3H_6)_5NH_4[Ce_2(CO_3)_5F_4]$; $(CN_3H_6)_3(NH_4)_3[Ce(CO_3)_4SO_4]\cdot H_2O$; $(CN_3H_6)_4(NH_4)_4[Ce(CO_3)_4(SO_4)_2]$; $(CN_3H_6)_3(NH_4)_2[Ce(CO_3)_3F_3]$; $(CN_3H_6)_3(NH_4)_3[Ce(CO_3)_3F_4]$. The synthesis of these compounds and their properties will be described in subsequent papers. There are 4 figures 4 tables, and 16 references: 1 Soviet, 1 Canadian, 1 Danish, 12 German, and 2 Italian.

X

Card 2/3

85605

Acido Complex Compounds of Cerium (IV) and Uranium (IV)

S/078/60/005/010/022/030/XX
B017/B067

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: November 14, 1959

X

Card 3/3

GOLOVNYA, Valentina Arkad'yevna; FEDOROV, Igor' Alekseyevich; CHERNYAYEV, I.I., akademik, otv. red.; DRAGUNOV, E.S., red. izd-va; YEGOROVA, N.F., tekhn. red.

[Basic principles of the chemistry of complex compounds] Osnovnye poniatiia khimii kompleksnykh soedinenii. Moskva, Izd-vo Akad. nauk SSSR, 1961. 133 p. (MIRA 14:11)

(Complex compounds)

GOLOVNYA, V.A.; NI TSZYA-TSZYAN' [Ni Chia-chien]

Absorption spectra of nitrite compounds of platinum. Zhur. neorg. khim. 6 no.1:124-130 '61. (MIRA 14:2)

(Platinum compounds—Spectra)

GOLOVNYA, V.A.; NI TSZYA-TSZYAN' [Ni Chia-chien]

Ammonia-nitrile compounds of platinum(II). Zhur. neorg. khim. 6 no.1:131-135 '61. (MIRA 14:2)

(Platinum compounds)

88603

S/078/61/006/002/007/017
B017/B054

21.3100

AUTHORS: Chernyayev, I. I., Golovnya, V. A., Ellert, G. V.

TITLE: Synthesis of Monocarbonate Complexes of the Type $Me^+[UO_2(OH)CO_3(H_2O)_3]$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 2, pp. 376 - 385

TEXT: The authors synthesized the following uranyl monocarbonate hydroxo triaquo complexes and determined their compositions: $NH_4[UO_2(OH)CO_3(H_2O)_3]$, $Tl[UO_2(OH)CO_3(H_2O)_3]$, $Ag[UO_2(OH)CO_3(H_2O)_3]$, and $Ba[UO_2(OH)CO_3(H_2O)_3]$. The stability of the ammonium, sodium, and potassium tricarbonate uranyl compounds was studied by varying the pH. The aqueous solutions of the ammonium uranyl tricarbonate complex show the highest stability to hydrolysis. Optimum production conditions for $(NH_4)_4[UO_2(CO_3)_3]$:

Card 1/2

88603

Synthesis of Monocarbonate Complexes of the Type $Me^+[UO_2(OH)CO_3(H_2O)_3]$

S/078/61/006/002/007/017
B017/B054

are: reaction of a solution of uranyl nitrate containing 160 - 200 g/l of uranium with 330 g/l of $(NH_4)_2CO_3$ (ratio 1:5 - 1:7), filtering off, and elution of the precipitate with ethanol and ether. This compound has a greenish-yellow color. The uranium quantity in the precipitate as a function of the concentration of the initial uranyl nitrate solutions was studied, results are given in Table 1. Most convenient is the work with a [redacted] solution. Tables 2 - 5 give the analytical results of the ammonium, barium, silver, and thallium uranyl monocarbonate complexes. Thermograms of the ammonium, barium, and thallium compounds are shown in Figs. 2 - 5. X-ray studies carried out by Z. V. Popova confirmed the existence of these compounds. The principal results of this investigation were reported to the 2nd International UNO Conference on the Peaceful Use of Atomic Energy. There are 6 figures, 11 tables, and 5 references: 2 Soviet, 1 Indian, 1 French, and 1 Canadian.

SUBMITTED: November 14, 1959

Card 2/2